Nestle Toll House of non-conformance

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Ingredients: chocolate chips and a hint of E. coli
In March of 2009, 77 people were found ill after consuming Nestlé Toll House prepackaged cookie dough. Of those people, 35 were admitted to the hospital; many with severe illness (Rothschild). It turns out that these ill customers consumed raw cookie dough that contained E. coli O157:H7. E. coli can be extremely dangerous and it definitely caused some backlash within the company. This spread to 30 states (shown below) across the U.S. and ultimately resulted in a recall and plant shut down.

![US states map with yellow highlighting](https://via.placeholder.com/150)

Centers of Disease Control and Prevention (CDC) investigated the outbreak finding that the root cause was the E. coli O157:H7 found in the refrigerated Nestlé Toll House cookie dough. Because of this, Nestlé initiated a voluntary recall on any uncooked cookie dough product on June 19th of the same year (MarlerClark). On June 25th a contaminated sample was observed at the Danville, California Nestlé plant. This plant produces nearly half on the Toll House cookie dough products and production was immediately shut down (FDA). With Nestlé stopping production and recalling products, it comes at a costly price. The company lost nearly $50 million due to this incident after collecting millions of recalled items, reimbursing retailers, and deconstructing one of its factories (Cho).

The common symptoms of being infected with E. coli O157:H7 can be bloody diarrhea and abdominal cramps that can last 2-8 days. However, the illness can last longer and become more severe resulting in a type of liver failure called hemolytic uremic syndrome (HUS). This illness can be extremely harmful and can even be deadly if not treated properly. With this case in particular, multiple people got HUS which had poor results. Marler Clark law firm filed three lawsuits against Nestlé just during this outbreak. A Californian woman, a child from Colorado and a man from Washington state were all effected and suffered from HUS (MarlerClark).
Lawsuits against any company are never a good thing, however it is good that Nestlé is such a large and successful company in which business was not severely effected by these lawsuits.

It is important for any company to find out where things went south and why. After some investigation, a researcher is lead to believe that the source of the E. coli came from the flour that was in the dough. In 2010, at an International Association of Food Protection meeting held in Anaheim, a Nestlé food safety specialist identified that flour was the only ingredient in the dough that was not cleared in the supplier level. Although it was never confirmed that the flour was the actual carrier if the bacteria, suppliers have become extra cautious of the flour to reduce the risk of another outbreak.

It is obvious that an event like this should never occur within every company. Because Nestlé is such a large and prospering business one would think that instances like these should not be occurring. Just this year, there was another Nestlé recall because listeria monocytogenes was possibly in the Drumsticks due to unwanted contact with machinery (Nestle). This led to a voluntary recall of most Drumstick Ice Cream Cone products. Instances like these occur quite often and many of the times management is to take the blame.

It seems that companies like Nestlé have quite a few recalls and it makes me wonder why instances like this happen so often. If we look at Deming’s System of Profound Knowledge, we can explore the possibilities of why outbreaks are common in Nestlé and how this can be fixed. Deming said, “an understanding of quality requires education” and that is probably what some managers need. Deming said that appreciation for the system is key with any production and I believe it can be easy for some employees and managers to get caught up in the process. There is a possibility that within production, some steps overshadow others leaving room for fault. In this E. coli incident, it was said that flour may have been the carrier, which is almost never the case. Nestlé pays much more attention to the eggs and dairy products that are in cookie dough rather than being worried about flour. It does make sense because eggs are more likely to carry bacteria like E. coli and salmonella, but that does not mean that everything else should be put on the backburner. Each part of the process is just as important as the next and I think every company should have that mind-set to limit slip-ups.

Deming also talks about the theory of knowledge, examining how people think and act, as a key aspect of a quality production. In this instance, Nestlé should maybe take a step back and think about something. They always say “do not consume raw cookie dough” on the
packaging, but what percent of people actually abide by those rules? The cold sweet chocolaty goodness is almost irresistible and Nestlé should know that. Instead of crossing their fingers and hoping no one eats the cookie dough raw, a company like Nestlé should be prepared and have more frequent testing of their product for possible hazards. They should not wait for something bad to happen; stop it before it can happen. I believe that if you put more money into quality control, it will pay off when there are less recalls and less production shutdowns that cost severe amounts of money and is a waste of time.

Another component of Deming’s theory is variation. I think that Nestlé can benefit from establishing a better way to pin point the variation that occurs and minimize it. I understand that this is a large company and they are always trying to improve their process. Given that I am not a Nestlé employee or manager I cannot be sure of how they go about their process of checking for variation and overall errors. I believe that random sampling can be quite beneficial for a company like this one. Because defects are appearing, I think random sampling should be more frequent so hopefully less recalls will need to be implemented.

Seeing such severe variation is cases such as this one, it is easy to see how bad the impact is through the price on non-conformance (PONC). The PONC shows us the cost of having to do things over again. In this instance, Nestlé voluntarily recalled cookie dough in over 30 states, which is such an extreme amount cookie dough. This PONC is a result of customer dissatisfaction which is an external cost. I would also consider this recall to have a tangible, measurable PONC because management can have a general idea of how many goods were recalled, the cost of not being able to output goods due to stopped production and the amount of money the lost in possible lawsuits. One thing that is intangible in this whole scenario is the loss of company reputation. It is inevitable that some customers who did get E. coli or even people who simply became aware of the outbreak develop disinterest in the company and all of it’s products. This is a loss for the company that they more than likely cannot get back.

Along with Deming’s Theory of profound knowledge, he also has his 14 points. Some of Deming’s 14 points are quite relevant to this case. One of the points he makes is to understand the purpose of inspection. He makes the point that inspection does not improve quality and that quality can only come from improvement of the production process. Although inspection itself cannot improve the process, I think that inspection can help the processes at a food-based plant like Nestlé. Deming also makes the point of encouraging education and self-improvement. I
think this mindset is important in any environment. Not only should an employee be well educated on their position, the should push their education on other subjects as well. It is easy to get bored and stuck in the same mono mindset and and it is important to stimulate the mind and expand one’s horizons. Becoming more educated can create a new perspective for many people and can it can create a positive influence on every aspect of someone’s life.

All these things are great, but if Nestlé wants to make sure that they are meeting the voice of the customer and creating quality products, they should really stick to the Lean/ Six Sigma methodology. According to the Six Sigma website, Nestlé is actually one of the large industries that require Six Sigma training among many of their employees (Six Sigma). This more than likely has led them to become more successful, but let us touch upon some things they can possibly improve on. The heart of Lean/Six Sigma is DMAIC- define, measure, analyze, improve, control. Each part of DMAIC is a step that will take a company closer to creating products in conformance. First, we have to establish that there is a problem in need of a solution. In our situation, the problem is that Nestlé produced a product that contained E. coli which harmed a fairly large amount of people and had to recall their product. The problem that can be fixed is figuring out a solution to reducing the chance of having an E. coli outbreak. The customers who purchased the raw packaged have certain requirements when they purchase a good and here I am pretty sure that one requirement is that they will not get sick when consuming the product. In the define phase it is also important to recognize if any one is being affected by the problem and the answer is an obvious yes.

Next, the process should be measured. It is important for a process to be evaluated before it begins to make changes. It is easy to track progress when there is a baseline to go off of. In the measuring phase, it is good to measure accuracy, precision, reproducibility and repeatability. Some tools for this phase include creating process maps, pareto charts of CTQs and problems in the process and gathering other variable and attribute data.

Phase three of DMAIC is to analyze the process. This phase is created to focus on the most critical to quality variables and to identify the root causes of defects or problems disrupting the process. The objective here is to come up with a hypothesis of what the main cause of the defects is. Let’s say that after some testing, it is found that within Nestlé’s cookie dough flour is what commonly carries bacteria that leads to defects. Nestlé’s hypothesis for the process would
be that flour is the common thread that leads to most of the problems within the company. Nestlé would then take action on their discovery and move to phase four to try to improve the process.

Now that it is discovered that flour is where most issues take place, Nestlé managers can improve the process. This can take place by creating check sheets or more process maps. It is also helpful to quantify the expected results. This can be executed by creating control charts in which the voice of process (VOP) determines if a process is stable and predictable. Another way is to check to see if the process can actually hit it’s specifications, in which I believe Nestlé can produce a quality product that meets the specs because it is so successful. It is also key to observe the amount of defects, if there is a pattern and if the product meets Six Sigma. There are many ways to actually work on the improvement which include creative workplace thinking, a flexible workforce, and employee accountability. These are things that can be pushed my management to see if improvements are being made.

After changes have been made it is necessary to control the process. In the control phase there are measurable tools for controlling the improvements. Once the improvements have been implemented, a great way to check the progress is to compare the results with the results that were taken before the improvement process began. This includes comparing the number of NVA products, the amount of defects and whether the production’s Lean/Six Sigma rating improved. These are just some steps that can possibly help improve conformance levels within any company- no matter how large or successful.

Although there are things that Nestlé can work on as a company to improve its ratings, it still is a successful place that knows how to do things right. After it’s E. coli incident, they did do the right thing by stopping production and recalling their goods. Another thing they did well was do their best to locate the source of the problem and take responsibility for their actions. Once Nestlé discovered that there were some loose ends when it came to quality checking, they immediately changed their suppliers (FDA). Throughout the 110 years that Nestlé had been in business, I am sure they know how to do things right, but sometimes they can slip up. Following the VOC and operating under Lean/Six Sigma standards still allows for variation to occur every now and again. Chef Gabrielle Hamilton said, “you can be consistently terrible and stay in business longer than if your inconsistent (good one day and bad the next day) in your quality (Lecture). This statement is valid and I agree with it; however, it makes me question a company
like Nestlé. When a powerhouse product like Nestlé Toll House cookie dough slips up, I firmly believe that the outcome would have to be catastrophic to actually effect the company.
Works Cited


